

IN THE CLAIMS

Please amend the claims as the follows.

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1-28. (Withdrawn)

29. (Twice amended) A tri-leaflet prosthetic valve comprising an annular valve body having an inner surface and being disposed around a central axis and three substantially identical leaflets mounted in said annular valve body and configured to translate between a closed position impeding blood flow through the valve and an open position allowing blood flow there through, said annular body having three pairs of symmetrically placed hinges ~~spaced around on one side~~ extended from the rim of said annular body for pivotally supporting said leaflets, each of said ~~hinge~~ hinges having a plane of symmetry containing said central axis and an ~~opening~~ opening; and each of said leaflets having opposed ears for engaging said hinges and a flat edge adjacent each of said ears for engaging a surface segment.

30. (Previously amended) The tri-leaflet prosthetic valve as in claim 29, wherein each of said leaflets further comprising a central surface having a curved outer edge for engaging the inner surface of said annular body and an obliquely angled inner edge for engaging adjacent leaflets.

31. (Original) The tri-leaflet prosthetic valve as in claim 29, wherein each hinge further comprises stop means for arresting movement of the leaflets.

32. (Previously amended) The tri-leaflet prosthetic valve as in claim 29 further comprising at least three supports for guiding said leaflets, each of said supports comprising two flat planes on said inner surface of said support.

33. (Previously amended) The tri-leaflet prosthetic heart valve according to claim 29 wherein each of said leaflets further comprising a central surface having a curved outer edge for engaging the inner surface of said annular body and an obliquely angled inner edge for engaging adjacent leaflets; and two flat segments adjacent to each ear to guide the motion of the said leaflet.

34. (Twice amended) The tri-leaflet prosthetic valve as in claim 29 wherein the valve body and the leaflets are formed of material selected from metal, graphite, polymers, ceramics, carbon composite, pyrolytic carbon, and nanostructure engineered pyrolytic carbon.

35. (Twice amended) The tri-leaflet prosthetic valve as in claim 29, wherein the valve body and the leaflets are ~~sole nanostructure engineered carbon or formed by further coat~~ coated ~~the substrates as in claim 34~~ with nanostructure engineered pyrolytic carbon.

36. (Twice amended) The tri-leaflet prosthetic valve as in claim ~~34~~ 29, wherein the valve body and the leaflets are formed of nanostructure engineered pyrolytic carbon ~~is a composite of aligned nanometer sized pyrolytic graphite carbon domains and carbon nanofibers.~~

37. (Twice Amended) The tri-leaflet prosthetic valve as in claim ~~34~~ 29, wherein the valve body and the leaflets are formed of carbon composite. ~~is implanted in a system that is selected from a group consisting of a heart valve of an aortic, mitral, pulmonary, and tricuspid; a valve in a transmyocardial revascularization; a valve in the veins; a valve in the esophagus and at the stomach; a valve in the cerebral fluid management; a valve in the ureter and/or the vesica; a valve in the lymphatic system; a valve in the biliary passages; and a valve in the intestines.~~

38. (Twice amended) The trileaflet prosthetic ~~valves~~ valve as in claim 29, wherein the internal ~~opening~~ opening shape of the hinges is triangular, circular or butterfly.

39. (Twice amended) The trileaflet prosthetic ~~valves~~ valve as in claim 29, wherein the bottom surface of the hinges is flat, spherical depression or spherical protrusion.

40. (Twice amended) The trileaflet prosthetic ~~valves~~ valve as in claim 29, wherein the bottom of the hinges is ~~closed~~, open or half open.

41-49. (Withdrawn)

50. (Currently amended) The tri-leaflet prosthetic valve as in claim 34 ~~37~~, wherein the carbon composite is formed of material selected ~~from~~ from graphite, carbon powder, chopped carbon ~~fiber~~ fibers, carbon nonofibers and organic thermosetting binders.

51. (New) The tri-leaflet prosthetic valve as in claim 36, wherein the nanostructure engineered pyrolytic carbon is a composite of aligned nanometer sized pyrolytic graphite-carbon domains and carbon nanofibers.